

ART. VII.—*Contributions to the Flora of Australia,*
*No. 6.*¹

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(With Plates IX.—XIII.).

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ANGIANTHUS HUMIFUSUS, Benth., var. GRANDIFLORUS, new var.
(Compositae), M. Koch. Woorooloo, W. Australia, 1906.

Attention is drawn to this plant on account of its remarkable external resemblance to large specimens of *Myriocephalus rhizocephalus*, Benth., forming a striking case of plant mimicry. The two plants are readily distinguished by the pappus, which in *M. rhizocephalus* consists of a single bristle, and in *A. humifusus* of five or six fringed ragged scales. [Specimens exhibited].

BAECKEA CRISPIFLORA, F. v. M. *Fragm. IV.*, p. 72, var. TENUIOR
(Myrtaceae).

Elder exploring expedition No. 2. Kangaroo Hill, R. Helms. 1891. Cowcowing, W.A., M. Koch, 1904. The variety is more slender than the type forms and has a shorter pedicel, so that the usually slightly smaller bracts are close under the ovary, which is less urceolate than in the type form. A specimen from Jibberding, W.A., M. Koch, 1905, is in some respects intermediate between the variety and type form.

CALLITRIS MORRISONI, R. T. Baker (Coniferae). *Linn. Soc. of N.S.W.*, vol. xxxi., 1906, p. 717.

Under this head Baker includes one of Oldfield's specimens from W. Australia, which was placed by Mueller as a variety of

¹ No. 5 in *Vict. Nat.*, vol. xxiv., 1907, p. 56

C. verrucosa, R. Br. This latter species is a synonym for *C. robusta*, R. Br., to which Baker admits his species closely approaches. The internodes to which Baker attaches special importance are not any shorter than in other specimens of *C. robusta*, and the scales which he gives as obtuse are acute as in *C. robusta*. There can be no doubt that this species is a variable one, but variations are shown often on one and the same specimen, and hence it is necessary to retain for it the scope given by Bentham, and include under it such varieties as *microcarpa*, *verrucosa*, *intratropica*, and possibly also the *columellaris* of F. M., and the *Morrisoni* of R. T. Baker. The last-named especially seems to come within the range of the *C. robusta* type, and a similar specimen was referred to that species by Bentham in the *Flora Australiensis*, p. 237.

CASSINIA LAEVIS, R. Br. (Compositae).

This plant was recorded by Mueller as new to Victoria (*Vict. Nat.*, vol. x., 1893 and 1894, pp. 132 and 160), on the strength of three specimens, one from Werribee Gorge, A. J. Campbell, 1892, one from J. F. Mulder, C. Otway, 1893, and the other from C. French, Goulburn R. Mr. Tovey drew my attention to the fact that these specimens were peculiar in several respects, and on examination the Werribee specimen proves to be *C. longifolia*, R. Br., and the Otway specimen *C. aculeata*. These three species are fairly closely related, but the specimens in question are identical with the types of their respective species. [Specimens and types exhibited]. Hence *C. laevis* has been wrongly recorded as Victorian.

CASSINIA THEODORI, F. v. M.

The Victorian specimens in the Herbarium all prove to be *Cassinia arcuata*, R. Br. Hence the former has been wrongly recorded as Victorian owing to incorrect identification. See *Vict. Nat.*, vol. x., p. 160, 1894.

CHAMAELAUCIUM HALLI, n. sp. (Myrtaceae), (after the Secretary of the Royal Society). Cowcowing, W.A., M. Koch, Sept., 1904.

A small shrub with stiff erect rough greyish branches, the leaves alternate and closely set at their ends in clusters of

nearly 1 to 3 cm. length. The leaves are terete, mostly half a cm. long, slightly narrowed at the base, the apex curved to a small, usually straight, white point, and sparsely covered with glandular spots.

The flowers are practically sessile in terminal clusters of usually three or more. Calyx tube wrinkled but not prominently ridged (when dry), dark red, glandular, the five broad obtuse ciliate lobes with a light red border, and with pellucid spots. Corolla twice the length of the calyx, the lobes broad obtuse, pale brownish-yellow, and minutely fringed. Stamens ten, the anthers adherent to an enlarged glandular connective, alternating with ten staminodes, the whole uniting to form a single distinct tube within the corolla. Ovary of one loculus, with several ovules arising from an erect wavy basal placenta. Style distended below the middle, stigma globular with a basal fringe of hairs.

The plant is allied to *C. ciliatum*, but its pointed leaves, flowers in terminal clusters, larger and broader unribbed calyces, petals distinctly fringed, at once distinguish it. The latter features show a slight approach to *Verticordia*, from which genus, however, it differs widely.

CONOSPERMUM CRONINIAE, DIELS. *Fragm. Phytog. Austr. Occid.*,
p. 143) = *C. amoenum*, Meisn.

This "species" is merely a depauperated form of *C. amoenum*, Meisn. With reduced inflorescences, somewhat smaller flowers and bracts, perianth with the external hairs well developed, so that the blue colour is partly hidden and the leaves usually, though not always, horizontally spreading. None of these features is constant, and a specimen seen by Bentham and referred to *C. amoenum* diverges still more widely in the same direction. In the *Flora Australiensis*, Bentham apparently described an extreme type in the direction of luxuriance, and hence for instance exaggerates the size of the bracts. All grades of transition exist between the luxuriant and depauperate forms, and Diels' figure of the stamens in the opened corolla is not quite correct, these and the peculiar style being precisely similar in both the luxuriant and depauperate forms. Diels collected no new material, and apparently saw only two of the extreme types at the Melbourne

Herbarium, being unaware of the intermediate forms referred by Bentham and Mueller to this species or of those since obtained. Neither Bentham nor Mueller considered these forms to be separable as a distinct and fairly constant variety, in which opinion I must emphatically concur, and desire to point out the danger of establishing a new species on a couple of odd forms taken from another Herbarium.

ERIOSTEMON (PUEBALIUM) GIBBOSUS, Luehm. (Rutaceae). Norseman, W.A., J. D. Batt, 1897.

This plant was exhibited before the Field Naturalists in 1897 (vol. xiv., p. 18), but no description of it has been published. The specimens are very fragmentary, but the leaves are like those of *E. difformis*, and the flowers like those of *C. obovalis*. The filaments are, however, not ciliate, and the anthers not apiculate, and there is no reason to suppose that the specimens form a hybrid between these two species.

The younger branches are minutely pubescent, and the leaves have very prominent glands. The calyx lobes are very short, obtuse, and very slightly ciliate. The petals are glabrous and imbricate. Of the ten stamens those opposite the petals are somewhat longer than the others. The pale glabrous filaments bear reddish spots, and the gynaeceum is glabrous.

GEOCOCCUS PUSILLUS, J. Drumm. et Harv. (Cruciferae).

This curious plant was suggested by Bentham as being possibly a form of *Blennodia* with dimorphic flowers and geophilous fruits. This suggestion was revived by Mueller (*Vict. Nat.*, 1892, p. 137), who pointed out that the foliage resembled that of *Sisymbrium cardaminoides*, F. v. M., and that a Brazilian *Cardamine* sometimes exhibits a similar peculiarity. *Geococcus pusillus* might possibly be a geophilous form of *Sisymbrium cardaminoides*, produced as the result of continued grazing or cropping. Some specimens of *Geococcus* in the Herbarium have the normal flowers of *Sisymbrium*, and show great variation in the shape and length of the fruit. The shortened, and sometimes almost sagittate, fruit of *Geococcus* is obviously developed

in order to penetrate the ground readily. It may even be shorter and broader than in the figures given, and may be three or more times longer, and half as broad, thus bringing the fruit near to some of the rather variable shapes assumed by the aerial fruits of *Sisymbrium cardaminoides*.

Mr. Reader (*Vict. Nat.*, 1905, p. 177), has, however, watched the growth of the plant, and concludes that it is not a form of *S. cardaminoides*, but is a good species (and genus) usually forming hypogeal fruits, but when luxuriant also producing them above ground. The variation in the shape of the fruit would, however, bring it near to *S. cardaminoides*. The differences in the flowers might be easily the result of their autogamous habit, as in species of *Viola* or *Lamium*. Numerous attempts to germinate and grow the plant from seed failed. The seed apparently rapidly loses its vitality, presumably in accordance with the fact that normally it is immediately planted. The appended figures show that *Geococcus* differs in many respects besides its general habit from *Sisymbrium*, but until the former plant has been proved to remain true for several generations, the possibility of a relationship between the two remains. *Geococcus* was omitted from the census by Mueller, but on the present evidence as to its structure must be restored, at least until cultural experiments succeed in showing that it is a form of another plant.

GUNNIOPSIS INTERMEDIA, Diels. (Diels and Pritzel, *Fragm. Phyt. Aust.*, etc., p. 197) = *Aizoon intermedium*, Diels. (*Aizoaceae*).

This new species appears to be the same as the "*Aizoon glabrum*" recorded by Mr. Luehmann, but of which no description was published.

In Engler's *Pflanzenfamilien*, Pax founds the genus *Gunniopsis* for the Australian species of *Aizoon* upon the following characters:—

AIZOON, calyx 5 partite, imbricate; capsule loculicidal.

GUNNIOPSIS, calyx 4 partite, valvate; capsule septicidal.

In *Gunniopsis*, *G. quadrifaria* (F. v. M.), Pax is included, which is presumably a misprint for *G. quadrifida* (*A. quadrifidum*, F. v. M.). The capsule is, however, both septicidal and partly

loculicidal in both the Australian species, the valvate and imbricate characters do not appear to be constant, and further, the calyx is sometimes five partite, as was first noted by Mueller, *Fragm.*, vol. vii., p. 129. There seems therefore to be no solid reason for founding a new genus for the Australian Aizoons, but preferably to give to that genus the somewhat broader latitude admitted by Benthham to include the Australian species, in spite of their additional development of septicial dehiscence, and usually of four partite calyces.

HELIPTERUM JESSENI, F. v. M. M. Koch, W. Australia, 1904.

The plant is mentioned on account of its highly misleading external resemblance to *Myriocephalus gracilis*, Benth. [Specimens exhibited.]

HELICHRYSUM SUBULIFOLIUM, F. v. M. (Compositae). (Syn. *H. filifolium*, F. v. M.).

Various forms of this plant from W. Australia (Cowcowing, M. Koch, 1904) bridge the gap to the very closely allied "species" *H. filifolium*, F. v. M., which appears to be merely a form of *H. subulifolium*, and can probably be classed as a variety of that species. The plant is often confused with *Helipterum tenellum* on account of its almost plumose pappus and filiform leaves but differs widely in its involucre.

HELICHRYSUM TEPPERI, F. v. M. (Compositae). Cowcowing Lakes, W. Australia, M. Koch, 1904; L. Boga, Victoria, H. B. Williamson, 1898.

This pretty little Composite described by Mueller in the *Science Record* 1882, p. 1, from S. Australia, was represented in Herbarium by the type specimens only. The plant from L. Boga was named *Podolepis Lessoni* by Mr. Luehmann, to a dwarf form of which it bears a fairly close resemblance, as noted by Mueller. The two are, however, quite distinct, and *H. Tepperi*, though apparently rare has a wide range through Victoria, S. Australia and W. Australia. It has been recorded from W. Australia by Spencer le Moore in *Journ. Linn. Soc. of London*, vol. xxxiv., 1899, p. 198.

HELIPTERUM GUILFOYLEI, n. sp. (Compositae) (named after the Director of the Melbourne Botanical Gardens).

An annual prostrate or ascending, rarely exceeding 4 to 5 cm. in height, covered with long loosely woolly hairs, and with one or more stems branching to form clusters of small ovoid heads. Leaves sessile, narrow, linear, mostly obtusely pointed, and 4 to 5 mm. long, channelled on the upper surface, alternate or opposite. Heads partly within the upper leaves, mostly 5 mm. long by 3 broad, the outer bracts 2 mm., the inner 4 or 5, and with small yellow or brown laminas, the innermost smaller again without any lamina and very thin. All with various entire margins, and twenty or more in number. Flowers all tubular and hermaphrodite, usually ten, the corolla, with five blunt points, the style swollen at the base, the pappus about the length of the corolla, of usually 8 plumose scales flattened at their bases and united to form a sessile ring easily separated entire. Achenes 1.5 to 2 mm. long, and quite twice as long as broad, reddish-brown, glabrous, the outer layers becoming mucilaginous in water, but with a reticulate surface before swelling. Style bifurcate with papillose ends; it and the stamens barely projecting beyond the throat of the corolla.

The plant has a close external resemblance to *H. exiguum*, F. v. M., but appears to be allied to *H. pygmaeum*, Benth., and of recently described species. *H. verecundum* (S. Moore, Journ. Linn. Soc., vol. xxxiv., 1899, p. 200) is distinguished by its minute size, and *H. Zacchaeus* (S. Moore, Journ. of Bot., 1897, p. 166), by its pappus, achenes nearly as broad as long, and green tips to the involucreal scales. The latter species also has presumably not the mucilaginous seed coat or peculiar style of *H. Guilfoylei*. Owing to the former fact the whole cluster of ripe achenes adheres and comes out in one mass, usually with the florets and pappus attached, two or three of the florets being usually sterile.

KOCHIA MASSONI, n. sp. (Chenopodiaceae) (named after Prof. Masson). Cowcowing, W.A., M. Koch, 1904.

A small annual slightly prostrate, up to 15 cm. in height, soft, and sparsely covered with a white or brownish wool, less developed

on the leaves and absent from the fruits. Leaves linear, mostly $1\frac{1}{2}$ cm. long, narrow without obtuse ends, alternate, closely set, the upper ones with sessile axillary flowers. Fruit sessile, dark greyish-brown, table-like, with ridged sides, 2 mm. high, and 4 mm. broad at the top, 2 mm. at base. The fruit thus has a flat top and broadened rim, but no wing. The latter fact at once distinguishes it from *K. humillima*, to which it is otherwise fairly closely allied in habit and general appearance. The plant is much smaller than the *Kochia polypterygia* of Diels, has smaller fruits with the discoid wing much less developed, and a flattened top to the fruit with the ridges barely showing.

PATERSONIA DRUMMONDI, F. v. M. (Irideae). Cowcowing, W.A., M. Koch, 1904.

The plant appears to be very rare, only three sheets of imperfect specimens being in the National Herbarium, collected by Drummond. Koch's specimens have the marginal hairs less prominently developed than the type, but some of Drummond's specimens show the same peculiarity, the larger hairs apparently rubbing off readily. A part of Drummond's specimens had evidently been burnt back by a bush fire some time previously to their collection.

PODOLEPIS KENDALLI, F. v. M., var. *NANUS*, new var. (Compositae).

Height four to six inches. Flowers all terminal and smaller than the terminal ones of the type. Waterloo, W.A., Max Koch, 1906. Champion Bay, W.A., L. Gould, 1890.

PODOLEPIS SPENCERI, n. sp. (Compositae), (named after Prof. W. Baldwin Spencer). Woorooloo, W.A., M. Koch, 1906.

Annual, 20-40 cm. height, one or more flowering stems from the same root, forming a loose panicle of heads, the final forks almost dichotomous. Stems glabrous, leaves hairy, and almost woolly on the under sides. Basal leaves lanceolate, spatulate about 5 cm. long by 1 cm. broad, the upper leaves all alternate, becoming narrower and smaller, and all sessile, with broad slightly-decurrent bases.

Heads on stalks of usually 5 or more cm., 1 to $\frac{1}{2}$ cm. long, and nearly as broad as long. Basal and outer bracts small, sessile and obtuse, the inner larger, developing pronounced claws with glands on the outer surface, and becoming more pointed; all with shining transparent unwrinkled and unfringed laminae. Outer rows of florets, female, ligulate, pale to brownish-yellow, with usually three blunt points, projecting beyond the bracts. Inner disc florets tubular and hermaphrodite, with five short, blunt, equal teeth. These in both florets are usually tipped with red. Pappus of about eight or ten fine bristles, minutely fringed but not plumose, present on all the florets.

The plant appears to come between *P. Lessoni*, and *P. rugata*. It is easily distinguished from the recently described *P. Georgei* of Diels, by the facts that the outer florets are ligulate, the leaves are never opposite, and the inner scales have curved glandular stalks. The smooth scales distinguish it from *P. rugata*, and its size and the colour of the florets from *P. Lessoni*.

PTEROSTYLIS REFLEXA, R. Br., var. *INTERMEDIA*, n. var.
(Orchidaceae).

This plant has been referred at different times to various species and was finally classed by Baron von Mueller as a variety of *P. obtusa*. Although closely related to *P. obtusa* it differs from that species in various features. The leaves on the evanescent basal rosette are three-veined instead of five-veined, and the two lateral veins are often very faint. The leaves are also smaller and more orbicular. The flowering stem is covered with fine closely-set short papillae, especially short and dense on the stalk and ridges of the ovary, and on the under surfaces of the leaves. The upper leaves on the flowering stem are often more than an inch long and nearly quarter of an inch broad, the edges finely denticulate, and contracted to a subulate brownish, often curved tip usually one-eighth of an inch or more in length, but less developed on the basal leaves. The labellum is lanceolate, strongly contracted in its upper third to a reddish-brown entire tip. The basal appendage is curved and irregularly fringed with cilia along its distal third, the terminal cilium being larger than the rest. In other respects the plant bears a close resemblance

to *P. obtusa*, from which however its labellum at once distinguishes it. The labellum and flower are like those of *P. praecox*, the leaves, stem, and papillose surface are more like the characters of *P. reflexa*.

Since a perfect series of gradations exist as regard size of flower, length of point of labellum, size and acuminate character of leaves, and scabrous or glabrous character of stem and leaves between *P. reflexa* and *P. praecox*, Lindl., the latter species must be reduced to a variety of *P. reflexa*. *P. obtusa*, R. Br., seems to be distinct, especially as regards the obtusely oblong shape of its labellum.

Mentone, J. R. Tovey and C. French, Jun., 1907; Cheltenham, J. McKibbin, 1893; Brighton, C. French, Jun.; Wedderburn, F. Colvin, 1880; near Beaumaris, C. French, Jun., 1882.

TYSONIA PHYLLOSTEGIA, F. v. M. (Compositae) = SWINBURNIA
PHYLLOSTEGIA, F. v. M.

This plant was described in the *Chemist and Druggist of Australia*, Oct. 1, 1896, at the time of Mueller's death. A description but no specimens are in the Herbarium. The latter were apparently claimed and retained by Mueller's Executors. Mueller was evidently unaware of the existence of a prior generic name of *Tysonia* Bolus, Boraginaceae, represented by one African species. Mueller's name therefore may be replaced *Swinburnia phyllostegia*, the generic name commemorating the services of the present Minister of Agriculture to Botanical research.

VERTICORDIA PRITZELI, Diels. *Fragm. Phytog. Austr.*
Occid., p. 404.

Under this name Diels and Pritzel include the plant recorded as *V. humilis*, Benth., of the Elder exploring expedition (*Trans. Roy. Soc. S. Aust.* XVI, p. 353). The latter identification was certainly incorrectly, since the specimens have bearded and not glabrous styles, but the style is not capitate as shown in Diel's figure but with an obtusely linear point. In other respects the specimens tally closely with Diels' description so that their figure of the style may have been incorrectly drawn.

Unrecorded Naturalised Aliens.

ALKANNA LUTEA, D. C. (Boragineae).

Derwent, Tasmania, ex. Herb., Spicer.

ALKANNA LUTEA, D. C., var. PARVIFLORA. (Boragineae).

Geelong, Victoria, H. B. Williamson, 1905.

BETA VULGARIS, L., var. MARITIMA. (Chenopodiaceae).

Probably an escape from cultivation. Geelong, Victoria, H. B. Williamson, 1907.

CONIUM MACULATUM, L. "Hemlock." (Umbelliferae).

Portland, 1907, and various other districts in Victoria.

ECBALLIUM ELATERIUM, A. Rich. (Cucurbitaceae).

Squirting cucumber. Probably a garden escape. Geelong, H. B. Williamson, 1907.

GLADIOLUS CUSPIDATUS, Jacq. (Irideae).

Geelong, H. B. Williamson, 1905. Near Melbourne, F. M. Reader, 1883. Ovens River, A. W. Euston, 1891. The first appearance of this plant was recorded by Mr. Reader in the Austr. Jour. of Pharmacy, 1887.

LOLIUM ITALICUM, A. Br. Italian Rye grass (Gramineae).

Various districts in Victoria.

MATRICARIA DISCOIDEA, D. C., "Wild Chamomile." (Compositae).

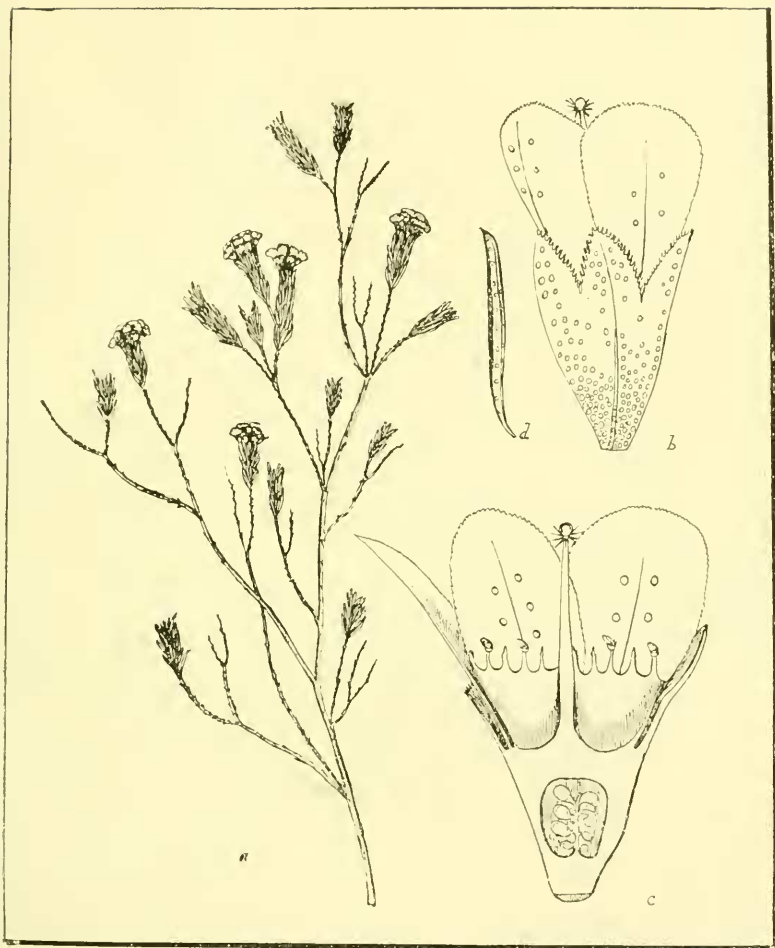
Widely spread in Victoria.

RANUNCULUS SCCELERATUS, L. (Ranunculaceae).

Orbost, Snowy R., C. H. Grove, 1905.

RESEDA LUTEOLA, L. "Dyer's Rocket." (Resedaceae).

Various localities in Victoria.



Chamaelaucium Halli, n. sp.